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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,931	04/26/2001	Kazunobu Uehara	F-6961	1189

7590 12/14/2004  
Jordan and Hamburg  
122 East 42nd Street  
New York, NY 10168

EXAMINER

CASCHERA, ANTONIO A

ART UNIT	PAPER NUMBER
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2676

DATE MAILED: 12/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/842,931	<b>Applicant(s)</b> UEHARA ET AL.	
	<b>Examiner</b> Antonio A Caschera	<b>Art Unit</b> 2676	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 September 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,4,6-9,11,12 and 14-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,4,6-9,11,12 and 14-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. <u>20 September 2004</u> |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)   |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in the pending application.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 3, 4, 6-9, 11, 12 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watari et al. (U.S. Patent 6,154,197) in view of Yamashita et al. (U.S. Patent 5,982,377).

In reference to claims 1, 7 and 9, Watari et al. discloses an image generating method for use in gaming systems, to project (by perspective projection) virtual three-dimensional objects onto a two-dimensional plane (see column 1, lines 5-11). Watari et al. discloses using polygons to represent objects of the display (see column 5, lines 19-23) by converting the world coordinates of these polygons to a two-dimensional system which represents the virtual space viewed from a visual point (see column 5, lines 42-54). Further, Watari et al. discloses the polygon data representing physical objects such as a player's robot, enemy robots, and elements of terrain (see column 5, lines 20-23). Note, the office believes that the RAM of Watari et al.

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inherently comprises of sets of polygon vertex coordinates, each set, constituting a single three-dimensional object as three-dimensional objects are commonly made up of sets or groups of polygons (Official Notice). Watari et al. also discloses a ROM for storing the polygon data and a RAM for storing data required for polygon coordinate conversion (see column 5, lines 6-10 and 19-20). Watari et al. discloses the CPU creating and passing perspective coordinate matrix data to a geometalyzer that performs the perspective conversion of polygon data from the ROM unit (see column 7, lines 4-22). Note, the office interprets the RAM of Watari et al. equivalent to a temporary storage for perspective conversion matrix data. Further, the office interprets the geometalyzer for fixing the coordinate system to a view coordinate system in a three-dimensional space and performing perspective conversion of polygon data using conversion matrix data sent from the CPU (see column 7, lines 4-22). Watari et al. also discloses a displaying device applying texture to the polygon data and sending the textured data to a frame buffer to be displayed on a monitor (see column 8, lines 28-31 and #112 of Figure 1). Note, since Watari et al. discloses sending converted textured polygon data to a frame buffer, the office interprets that Watari et al. inherently discloses displaying all of the objects at the same time based upon the sets of converted vertex coordinates because a frame buffer ordinarily stores one full image screen which comprises those sets of converted vertex coordinates that have been converted. Watari et al. does not explicitly disclose reading out a new plurality of conversion matrices however Yamashita et al. does. Yamashita et al. discloses a three-dimensional graphic displaying system and method allowing a viewpoint of a graphic to change when the graphic is rotated or moved (see lines 1-3 of abstract). Yamashita et al. discloses utilizing six conversion matrices, at the same time, to perform coordinate conversion processing (see column 10, lines 6-

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12). Yamashita et al. discloses multiplying the six matrices together with elements of the first matrix comprising of coordinates of an original graphic (see column 10, lines 12-31). Note, the office interprets multiplying the above matrices together equivalent to the claimed language of applicants claims stating the matrices are, "...used at the same time..." Yamashita et al. discloses performing the coordinate conversion process on all coordinate points of the graphic (see column 10, lines 6-10) which the office interprets equivalent to vertex coordinates of applicant's claims as vertex coordinates are considered included in, "all coordinates of the graphic." Note, the office interprets that Yamashita et al. produces a plurality of sets of converted vertex coordinates of the polygons as Yamashita et al. discloses converting each coordinate point of a graphic and terminating conversion processing when no unconverted points remain (see column 10, lines 6-10). Further, the office interprets that the matrices used in the coordinate conversion of Yamashita et al. are; "different from each other" and "newly read out" since the matrices comprise of rotational and expansion values that change based on the movement of the graphic, therefore creating matrices with different values (see columns 9-10, lines 65-31 and #S16 of Figure 17, the sin and cos functions and value s). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the image generation method and apparatus of Watari et al. with the coordinate conversion techniques of Yamashita et al. in order to calculate graphic coordinates of an object which vary depending on a position of a user viewpoint (see lines 8-11 of abstract of Yamashita et al.). Note, in reference to claim 9, Watari et al. also discloses another ROM unit (#102 of Figure 1) that stores a program that executes the conversion processes (see columns 3-4, lines 66-5).

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In reference to claims 3, 6, 11 and 14, Watari et al. and Yamashita et al. disclose all of the claim limitations as applied to claims 1, 4, 9 and 12 respectively. The office interprets that Yamashita et al. produces a plurality of sets of converted vertex coordinates of the polygons as Yamashita et al. discloses converting each coordinate point of a graphic and terminating conversion processing when no unconverted points remain (see column 10, lines 6-10). Further, the office interprets that the matrices used in the coordinate conversion of Yamashita et al. are; “different from each other” and “newly read out” since the matrices comprise of rotational and expansion values that change based on the movement of the graphic, therefore creating matrices with different values (see columns 9-10, lines 65-31 and #S16 of Figure 17, the sin and cos functions and value s).

In reference to claims 4, 8 and 12, claims 4, 8 and 12 are similar in scope to claims 1, 7 and 9 and therefore are rejected under similar rationale. Note, Watari et al. also discloses data busses connecting the various hardware units, in particular the shape data ROM (see #111 of Figure 1) and the conversion matrix storing RAM (see #103 of Figure 1) with the conversion unit, the geometalyzer (see #110 of Figure 1). The office interprets these data lines to be equivalent to a transfer unit allowing for the transfer of data from the storage units. Neither Watari et al. nor Yamashita et al. explicitly disclose transferring the plurality of perspective conversion matrices different from each other after transferring the polygon coordinate data however at the time the invention was made, it would have been obvious to one of ordinary skill in the art to transfer data in a certain way which best suits the application at hand or which is preferred by the designer. Applicant has not disclosed that transferring the plurality of perspective conversion matrices different from each other after transferring the polygon

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coordinate data provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the data transferring methods of Watari et al. and Yamashita et al. because the order in which such above data is transferred provides no immediate criticality to the application at hand, as seen by the office, since both pieces of data are needed for the conversion calculation. Therefore, it would have been obvious to one of ordinary skill in this art to modify Watari et al. and Yamashita et al. to obtain the invention as specified in claims 4, 8 and 12. Note, in reference to claim 12, Watari et al. also discloses another ROM unit (#102 of Figure 1) that stores a program that executes the conversion processes (see columns 3-4, lines 66-5).

In reference to claims 15-22, Watari et al. and Yamashita et al. disclose all of the claim limitation as applied to claims 1, 4, 7, 8, 9, 12, 1, 4 respectively above. Yamashita et al. discloses utilizing six conversion matrices to perform coordinate conversion processing (see column 10, lines 6-12). Yamashita et al. discloses multiplying the six matrices together with elements of the first matrix comprising of coordinates of an original graphic data (see column 10, lines 12-31). This original graphic data is multiplied by the different conversion matrices to produce converted coordinates (see columns 1-3 of 1<sup>st</sup> matrix in step #S16 of Figure 17 and column 10, lines 11-16 of Yamashita et al.).

### ***Response to Arguments***

3. Applicant's arguments, see pages 16-19 of Applicant's Remarks, filed 9/20/2004, with respect to the rejection(s) of claim(s) 1, 3, 4, 6-9, 11, 12 and 14-22 under 35 U.S.C. 103(a) have

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been fully considered and are persuasive. In view of these remarks and the Interview conducted on 9/20/2004, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Watari et al. Note, the amendment made to the independent claims adds the language, "...plurality of sets of converted..." (see claim 1, page 4, 2<sup>nd</sup> line, for example) that slightly changes the scope of the claim by basing the displaying of all three-dimensional objects on newly, "...converted vertex coordinates" and not "...vertex coordinates" as previously recited.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (703) 305-1391.

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The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:00 AM and 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (703)-308-6829.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



MATTHEW C. BELLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600

aac

12/2/04